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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/696,807
Filing Date: October 30, 2003
Appellant(s): ENIS ET AL.

Stephen A. Terrile
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 14, 2006 appealing from the Office action mailed July 26, 2006. A Supplemental Appeal Brief was filed on January 24, 2007.

(1) Real Party in Interest

The real Party in interest has been identified in the Appeal Brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is deficient. 37 CFR 41.37(c)(1)(v) requires the summary of claimed subject matter to include: (1) a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by page and line number, and to the drawing, if any, by reference characters and (2) for each independent claim involved in the appeal and for each dependent claim argued separately, every means plus function and step plus function as permitted by 35 U.S.C. 112, sixth paragraph, must be identified and the structure, material, or acts described in the specification as corresponding to each claimed function must be set forth with reference to the specification by page and line number, and to the drawing, if any, by reference characters. The brief is deficient because on line 2 of the first paragraph of the summary of claimed subject matter, the page and line numbers do not exist in the specification filed. The Appellant has cited page 19, lines 1-6, but the

specification filed only contains 18 pages. A similar problem is found in paragraph 2, line 2 and paragraph 3, line 2.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,535,865	Skaaning et al.	3-2003
6,587,969	Weinberg et al.	7-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 5-14, 18-27 and 31-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Skaaning et al in view of Weinberg et al (US Patent #6,535,865, referred to as **Skaaning**; US Patent #6,587,969, referred to as **Weinberg**).

Claims 1, 14 and 27

Skaaning teches a method, apparatus and module for searching potential solutions within a solution network (**Skaaning**: abstract, L1-2; Examiner's Note (EN): a

troubleshooter searches for potential solutions to a problem. A Bayesian network is a solution network) comprising: authoring a solution to solve an issue (**Skaaning**: C6, L10-21); storing the solution within a decision tree relating to the issue (**Skaaning**: e.g., C6, L10-21; Fig. 4; EN: the knowledge acquired must be stored in the network to create the troubleshooter, see Fig. 2 for the troubleshooter memory); and, searching the solution network based upon the issue, the searching including accessing the decision tree relating to the issue (**Skaaning**: C5, L5-16; C25, L 1-53; Fig. 6; Fig. 7; C27, L34-67; C28, L1-23; Fig. 8; C43, claim 1; EN: the troubleshooter will search the network to find a solution to the problem); and presenting results of a search in a graphical presentation (**Skaaning**: C8, L1-9; C8, L20-22; Fig. 1; EN: when accessing the troubleshooter and monitoring the process the results are presented in a display (graphical presentation)).

Skaaning does not teach the presenting including rendering results of the search in a hierarchical view, the hierarchical view enabling a user to bypass certain solutions by skipping steps; and rendering results of the search in a tree format, the tree format enabling navigating through trouble shooting steps one step at a time, the tree format enabling a user to pick and choose particular steps to access.

Weinberg teaches the presenting including rendering results of the search in a hierarchical view, the hierarchical view enabling a user to bypass certain solutions by skipping steps (**Weinberg**: C5, L52-59; C8, L60-65; C11, L51-63); and rendering results of the search in a tree format, the tree format enabling navigating through trouble shooting steps one step at a time, the tree format enabling a user to pick and choose

particular steps to access (**Weinberg**: C5, L52-61; C8, L63-65; C11, L51-67, C12, L 1-15).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Skaaning by rendering the results of the search in a hierarchical view, allowing the user to skip steps as taught by Weinberg for the purpose of making the process of finding a solution faster by skipping steps that will not provide a useful solution to the problem.

It would have also been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Skaaning by rendering results of the search in a tree format, the tree format enabling navigating through trouble shooting steps one step at a time, the tree format enabling a user to pick and choose particular steps to access as taught by Weinberg for the purpose of allowing the user to select each step to execute so that only the steps relevant to the problem are performed.

Claims 5, 18 and 31

Skaaning teaches the searching includes a self learning symptom based search using a perception of an issue by the customer (**Skaaning**: C5, L53-67; C6, L22-53; EN: logging data collected from the user and the outcome of the troubleshooting session is self learnng).

Claims 6, 19 and 32

Skaaning teaches the decision tree links and strengthens or lessens relevancies of trees to customer symptoms (**Skaaning**: C5, L32-44; C15, L5-20; EN: calculating the

probabilities strengthen or lessens the relevancies of a tree in solving a problem).

Claims 7, 20 and 33

Skaaning does not teach enabling trees to be searchable by viewing a hierarchical view of trees organized based upon business needs.

Weinberg teaches enabling trees to be searchable by viewing a hierarchical view of trees organized based upon business needs (**Weinberg**: C2, L41-44; C5, L52-59; C11, L34-50).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Skaaning by enabling trees to be searchable by viewing a hierarchical view of trees organized based upon business needs as taught by Weinberg for the purpose of allowing the user to view the solution trees in a way that shows the relationships between the problems and the solutions organized by processes.

Claims 8, 21 and 34

Skaaning does not teach storing the solution within a decision tree provides a dynamic tool that reuses content and renders content based on the symptom and requested environmental variables.

Weinberg teaches storing the solution within a decision tree provides a dynamic tool that reuses content and renders content based on the symptom and requested environmental variables (**Weinberg**: Abstract; C2, L41-56; EN: data input requested are environmental variables).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Skaaning by storing the solution within a decision tree providing a dynamic tool that reuses content and renders content based on the symptom and requested environmental variables as taught by Weinberg for the purpose of creating the troubleshooter to provide the user with solutions to problems related to the operating state of the system and allowing the troubleshooter to reuse that information to provide solutions to future problems.

Claims 9, 22 and 35

Skaaning teaches storing the solution within a decision tree includes linking together existing knowledge articles to generate troubleshooting trees (**Skaaning**: C9, L31-34; C10, L34-44; C44, L14-20; EN: causes and subcauses are linked together to generate trees).

Claims 10, 23 and 36

Skaaning teaches authoring the solution includes creating new articles available for use through searching the knowledge base in other decision trees (**Skaaning**: C5, L24-44; C33, L49-67, C34, L1-2; Fig. 5; Fig. 11; C43, claim 6).

Claims 11, 24 and 37

Skaaning teaches authoring the solution includes creating content and troubleshooting trees by viewing an issue in a process flow (**Skaaning**: Abstract, L1-7; C8, L66-67; C9, L1-16, C44, L15-30; EN: a problem in the system is an issue in a process flow).

Claims 12, 25 and 38

Skaaning does not teach dragging and dropping of content to create relationships and create individual knowledge articles.

Weinberg teaches dragging and dropping of content to create relationships and create individual knowledge articles (**Weinberg**: C2, L51-56; C11, L1-5).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Skaaning by incorporating dragging and dropping of content to create relationships and create individual knowledge articles as taught by Weinberg for the purpose of making it easier for the user to create trees by simply choosing content to inter-relate, relieving the user from the burden of having to actually program the system every time he wishes to create a new solution tree.

Claims 13, 26 and 39

Skaaning teaches authoring the solution is dynamic to enable content reviewers to review relationships between individual pieces of knowledge (**Skaaning**: C8, L20-22; C9, L31-34; C10, L34-44; EN: causes and subcauses are individual pieces of knowledge).

(10) Response to Argument

In reference to Appellant's arguments on page 5:

In re pg. 5, the appellant argues the cited portion of Skanning, and in fact nowhere in Skanning, is there any disclosure or suggestion of storing the solution within a decision tree relating to the issue as claimed and supported within the present application.

Examiner's response:

In the appellant's Summary of the Claimed Subject Matter, the appellant points to pg. 7, lines 19-21 for support for the limitation of "storing the solution within a decision tree" (see pg. 2, section V of appeal). This section of the appellant's disclosure specifies knowledge is stored in a centralized repository 130. Therefore, it is clear that said limitation (storing the solution within a decision tree) is very broad.

Clearly Skanning discloses storing the solution (solutions read on e.g., causes, col. 5, lines 17-24; col. 6, lines 40-53; col. 10, lines 34-67) within a decision tree (using a Bayesian network, C5, L 5-17; C6, L40-53; C3, L 13-32; storing solutions/causes in a hierarchy, C10, L34-67; Table 4 or Figs. 10A-11) whereas the appellant merely has support for storing knowledge in a memory.

Skanning teaches an automated troubleshooter using Bayesian networks (**Skanning**: abstract, L1-2). Knowledge is acquired, including the solution to a problem (an issue), to create the troubleshooter (**Skanning**: C4, L42-60; C5, L5-17). Figure 4 shows the knowledge acquisition process performed by the system of Skanning to create the troubleshooter (Fig. 2). At step 903 actions that can solve any of the causes of the problems are identified and listed (**Skanning**: C11, L17-20).

A Bayesian network comprises of a set of nodes connected to each other (**Skanning**: Figs. 8-77; or C2, L61-65; Figs. 7-11). The network is traversed from node to node depending on the connection strengths connecting the nodes (in this case the probabilities). As can be seen from figures 7-11, a Bayesian network has a tree

structure. The nodes are traversed from a parent node to a child node based on probability distributions. In other words, a decision is made to move from one node to another based on the probabilities of the interconnection between the nodes. Therefore, a Bayesian network is a decision tree and since the solutions acquired in the knowledge acquisition step are used to create the troubleshooter, the solutions are stored within the decision tree (as the troubleshooting step nodes).

In reference to Appellant's argument on page 6:

In response to Applicant's arguments regarding Skanning and Weinberg, specifically with respect to the rending results of the search in a hierarchical view which enables a user to bypass certain solutions by skipping steps.

Appellant also argues However, nowhere in the cited portions of Weinberg, and in fact nowhere in Weinberg, is there any disclosure or suggestion of storing the solution within a decision tree relating to the issue as claimed and supported within the present application, much less of rending results of the search in a hierarchical view which enables a user to bypass certain solutions by skipping steps as claimed.

Examiner's response:

Clearly Skanning discloses storing the solution (solutions read on e.g., causes, col. 5, lines 17-24; col. 6, lines 40-53; col. 10, lines 34-67) within a decision tree (using a Bayesian network, C5, L 5-17; C6, L40-53; C3, L 13-32; storing solutions/causes in a hierarchy, C10, L34-67; Table 4 or Figs. 10A-11) whereas the appellant merely has support for storing knowledge in a memory. Also see above response regarding storing data in a tree. Furthermore, the Examiner notes that the appellant is attacking the references individually where as here the rejections are based on a combination of references see In re Keller USPQ 871 (CCPA 1981).

As per the limitations of rending the results of the search in a hierarchical view which enables a user to bypass certain solutions by skipping steps, Weinberg teaches a tool to display a test as a tree having nodes (a hierarchy) which represent steps of the test (**Weinberg**: abstract, L6-8). The user can edit the test by selecting a node and editing properties of the nodes (**Weinberg**: C2, L41-56; C5, L52-65). The tests are presented in a sequential order and the tests are executed in the same order (**Weinberg**: C11, L66 to C12, L2). The results of the test execution are displayed to the user using a hierarchical node structure (**Weinberg**: C3, L30-44). The user can use this node structure to select nodes on the tree corresponding to a particular step of the test (**Weinberg**: C16, L53 to C17). The user can also control the execution of the test, like using "run to cursor", "run from cursor" and "step over" (**Weinberg**: C12, L2-15; C18, L26-37). The user is able to modify the test so as to skip a step in an iteration of the test (C12, L10-15).

If the test is performed in the same order as they are displayed in the tree, the tree is being searched to perform the test. The results of the test (the search) are presented in a hierarchical view to the user. If the user is selecting a particular node in the tree to view the results of the test for that particular step, he is skipping steps, since he is only viewing the results of one of the steps of the test. Moreover, the user can control the execution of the test by skipping steps.

In reference to Appellant's argument on pages 6-7:

The appellant argues regarding Skanning and Weinberg, specifically with respect to the rendering results of the search in a tree format which enables navigating through trouble shooting steps one step at a time and enables a user to pick and choose particular steps to access.

However, nowhere in the portion of Weinberg, and in fact nowhere in Weinberg, is there any disclosure or suggestion of storing the solution within a decision tree relating to the issue as claimed and supported within the present application, much less of rending results of a tree format which enables navigating through trouble shooting steps one step at a time and which enables a user to pick and choose particular steps to access as claimed.

Examiner's response:

Clearly Skanning discloses storing the solution (solutions read on e.g., causes, col. 5, lines 17-24; col. 6, lines 40-53; col. 10, lines 34-67) within a decision tree (using a Bayesian network, C5, L 5-17; C6, L40-53; C3, L 13-32; storing solutions/causes in a hierarchy, C10, L34-67; Table 4 or Figs. 10A-11) whereas the appellant merely has support for storing knowledge in a memory. Also see above response regarding storing data in a tree. Furthermore, the Examiner notes that the appellant is attacking the references individually where as here the rejections are based on a combination of references see In re Keller USPQ 871 (CCPA 1981).

Also, the results of the test are presented (rendered) to the user as a node structure (a tree format) where each node represents different types of steps in the test. The user is able to perform actions using this structure such as adding deleting and controlling the execution of the test (**Weinberg**: 5, lines 59-61). Therefore, the user can navigate through the steps in the structure and pick a particular step to perform an action (access a particular step). Moreover, the user can select a particular point in the tree to start the test and a single stepping option is available such that the user can select each step that is executed (**Weinberg**: C11, L66 to C12, L15).

In reference to Appellant's arguments on pages 7-8:

The appellant argues Skaaning and Weinberg, taken alone or in combination, do not teach or suggest a method for searching potential solutions within a solution network where the method includes *storing the solution within a decision tree relating to the issue,* searching the solution network based upon the issue where the searching includes accessing the decision tree relating to the issue, and presenting results of a search in a graphical presentation, much less such a method where *the presentation includes rendering results of the search in a hierarchical view which enables a user to bypass certain solutions by skipping steps, and rendering results of the search in a tree format which enables navigating through trouble shooting steps one step at a time and enables a user to pick and choose particular steps to access,* all as required by claim 1. Accordingly, claim 1 is allowable over Skaaning and Weinberg. Claims 5 - 13 depend from claim 1 and are allowable for at least this reason.

Skaaning and Weinberg, taken alone or in combination, do not teach or suggest an apparatus for searching potential solutions within a solution network where the apparatus includes *means for storing the solution within a decision tree relating to the issue,* means for searching the solution network based upon the issue where the search includes accessing the decision tree relating to the issue, and means for presenting results of a search in a graphical presentation, much less such an apparatus where the means for presenting includes *means for rendering results of the search in a hierarchical view which enables a user to bypass certain solutions by skipping steps, and means for rendering results of the search in a tree format which enables a user to navigate through trouble shooting steps one step at a time and enables a user to pick and choose particular steps to access,* all as required by claim 14. Accordingly, claim 14

is allowable over Skaaning and Weinberg. Claims 18 - 26 depend from claim 14 and are allowable for at least this reason.

Skaaning and Weinberg, taken alone or in combination, do not teach or suggest a system for searching potential solutions within a solution network where the system includes an authoring module, a storing module, a searching module and a presenting module where *the storing module stores the solution within a decision tree relating to the issue* and the searching module searches the solution network based upon the issue and *the searching includes accessing the decision tree relating to the issue* much less such a system where the presenting module includes a first and a second rendering module where *the first rendering module renders results of the search in a hierarchical view which enables a user to bypass certain solutions by skipping steps and the second rendering module renders results of the search in a tree format which enables a user to navigate through trouble shooting steps one step at a time and enables a user to pick and choose particular steps to access,* all as required by claim 27. Accordingly, claim 27 is allowable over Skaaning and Weinberg. Claims 31 - 39 depend from claim 27 and are allowable for at least this reason.

Examiner's response:

The Examiner's responses above apply to these arguments.

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Omar F. Fernández Rivas

Wednesday, August 22, 2007

Conferee:

David Vincent

9/4/07

DAVID VINCENT
SUPERVISORY PATENT EXAMINER

Conferee:

Tony Knight